COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
http://dpw.lacounty.gov

GAIL FARBER, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

June 13, 2013

IN REPLY PLEASE
REFER TO FILE: EP-4

Dear Company Representatives:

REQUEST FOR EXPRESSIONS OF INTEREST
CONVERSION TECHNOLOGY PROVIDERS

Public Works continues to pursue the development of vital conversion technologies to help reduce our dependence on landfill disposal and provide new sources of energy.

Public Works is seeking information on conversion technologies that are offered in the U.S. market and would be available for application for one or more projects in the County of Los Angeles.

On behalf of Public Works, I would like to invite your company to participate in this process by completing and returning the information requested in the enclosed Request for Expressions of Interest by August 15, 2013.

If you have any questions regarding this process, please contact Ms. Susan Higgins of Alternative Resources, Inc., at (978) 371-2054, or Mr. Christopher Sheppard at (626) 458-5163, Monday through Thursday, 7 a.m. to 5:30 p.m. Additional contact information for both Ms. Higgins and Mr. Sheppard is in the enclosed RFEI.

Very truly yours,

GAIL FARBER
Director of Public Works

PAT PROANO
Assistant Deputy Director
Environmental Programs Division

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P:\Sec\Conversion Technology RFEI

Enc.

County of Los Angeles
Department of Public Works

Solid Waste Conversion Technology Program

Request for Expressions of Interest: Conversion Technology Providers

Issuance: June 13, 2013
Submission Deadline: August 15, 2013

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Attachments

1.0 INTRODUCTION

This Request for Expressions of Interest (RFEI) is seeking information on conversion technologies that are available in the U.S. market and would be available for application for one or more projects in Los Angeles County, California. Through this RFEI, the County of Los Angeles Department of Public Works (County) is requesting from conversion technology providers and/or project developers representing such providers (referred to herein as Respondent(s)), information on their technology, as well as qualifications and resources of their company. Another RFEI for financial service firms that are in the business of assisting in the structuring and financing of conversion technology projects has been issued in parallel to this RFEI. The County anticipates that conversion technology providers that respond to this Conversion Technology RFEI would not also respond to the Financial Services RFEI. However, if unique circumstances warrant a company responding to both RFEIs, it is acceptable to do so.

The County issued a similar solicitation in 2011. Based upon responses to the County's first solicitation, a data base of conversion technology companies and project developers was established. The data base is available on the County's website at www.socalconversion.org, under the tab "Resources" and the sub-tab "Technical". The data base is used by the County and by public and private project developers participating in the County's conversion technology program, as an informational tool in the development of conversion technology projects. The data base allows the County and other project stakeholders to initially identify and assess technologies that are ready for commercial application and that may be suited to their project-specific goals and objectives, and is intended to encourage partnering for the development of commercial projects. Based on responses to this RFEI, the County intends to update and expand the current data base of conversion technology providers.

The data base resulting from this RFEI is an important informational tool for the County and its stakeholders. However, the listing of any company as part of the data base will *not* be an endorsement or recommendation of any individual company or technology. The data base will carry a general disclaimer that it is not necessarily all-inclusive, that it represents information and performance characteristics as described by the respondent as of the date of the RFEI submittal and not necessarily confirmed by the County, and that it is subject to change.

This solicitation is only for purposes of obtaining information and updating the data base, and is not a request for proposals for services. The County cannot assure any Respondent to this RFEI or company included on the data base that it would be deemed qualified by any public or private project developer to provide project-specific services or that it would be selected to provide such services.

The County is being assisted by a multi-party technical and financial consulting team led by Alternative Resources, Inc. (ARI). ARI has worked with the County to develop this RFEI and will be reviewing responses and compiling the data base referenced herein. As identified in Section 3.2 of this RFEI, the primary point of contact for the Respondents regarding the RFEI process is ARI.

CONVERSION TECHNOLOGY COMPANIES AND PROJECT DEVELOPERS THAT RESPONDED TO THE COUNTY'S JUNE 2011 INITIAL RFEI AND THAT ARE CURRENTLY INCLUDED ON THE DATA BASE, ARE ENCOURAGED TO RESPOND TO THIS CURRENT RFEI WITH ANY INFORMATION UPDATES WHICH THEY BELIEVE ARE SIGNIFICANT OR WILL ENHANCE THE INFORMATION PROVIDED IN THEIR ORIGINAL RESPONSES AND CURRENTLY SUMMARIZED ON THE DATA BASE.

2.0 BACKGROUND

For over a decade, Los Angeles County has been evaluating the development of conversion technology facilities as alternatives to the continued landfilling of solid waste by municipalities and communities in the County. In addition to providing an alternative method of solid waste disposal, the development of such facilities will produce sources of renewable energy (whether as electric power or gaseous or liquid fuels) and create local green-collar jobs.

In 1999, the Los Angeles County Board of Supervisors adopted recommendations to promote alternatives to landfills and to begin studying the most advanced conversion technologies from around the world. Most recently, the Los Angeles County Board of Supervisors unanimously approved a motion in September 2012 to further support the development of conversion technologies as alternatives to landfills. The motion called on federal and state legislators to change outdated regulations that hinder the development of conversion technologies in California, and is seen as a critical step in providing alternatives to landfills and producing renewable biofuels.

To date, the County's conversion technology program has included a transparent four-phase process. Phase I began with an extensive technology and site evaluation. Phase II further analyzed a short list of companies and sites. Phase III focuses on establishing demonstration projects. Phase IV focuses on commercial development of projects.

Through this four-phase program, the County has evaluated approximately 200 technology companies, assessed the viability of multiple sites throughout the County for project development, and signed Memoranda of Understanding with companies to build demonstration projects (one of which has recently initiated construction - a 150 ton-per-day anaerobic digestion project in Perris, CA). The County has conducted extensive public outreach and education, including hosting workshops, creating a website, and publishing newsletters dedicated to conversion technology. The County is working extensively with individual municipalities and other stakeholders interested in hosting/sponsoring conversion technology facilities, including assessing community needs, conducting feasibility studies, researching funding opportunities, and facilitating other project development activities. One of several tools that the County offers to these stakeholders is the data base of conversion technology providers. This RFEI will be used to update that data base to ensure it remains a current and valuable tool for municipalities and other stakeholders pursuing conversion technology projects.

3.0 REQUEST FOR EXPRESSIONS OF INTEREST – CONVERSION TECHNOLOGY PROVIDERS

This RFEI is seeking information on conversion technologies, which are defined by the County to be technologies capable of converting post-recycled or residual solid waste into useful products, green fuels, and renewable energy through non-combustion thermal, chemical, or biological processes. This RFEI is ***not*** seeking information on conventional (or advanced) waste-to-energy combustion technology, technologies that alter only the physical characteristics of waste feedstock (e.g., screening, shredding and/or grinding such as to produce a refuse derived fuel), or conventional composting technology, except as such technologies may be used in combination with conversion technology (e.g., for pre- or post-processing). Such technologies are not the focus of this RFEI and will not be included on the data base, unless they are integral to and used with an otherwise-listed conversion technology.

The primary interest of the RFEI is for the use of conversion technologies for management of MSW, food waste and green waste. Please refer to Attachment 1 for definitions of these materials and Attachment 2 for assumptions regarding the composition of MSW that should be used for purposes of responding to this RFEI. Also of interest, but to a lesser extent and at a lower priority, is the potential use of conversion technologies for management of other waste feedstock (e.g., medical waste, biosolids).

In response to this RFEI, Respondents are requested to identify what they consider to be optimum projects for commercial application of their technology(ies), considering self-defined technical, economic and other factors specific to their individual circumstances. The intent of having each Respondent identify one or more optimum projects for its technology(ies), is to allow users of the data base to understand the most appropriate or intended applications of the technology. A single Respondent may, as applicable, identify more than one optimal project for different facility sizes, different feedstocks, and different products (e.g., fuel or electricity). Currently, there is interest within the County for a variety of conversion technology projects, ranging for example from small-scale projects (e.g., 100 tpd or smaller) to large-scale projects (e.g., 1,500 tpd or greater), for post-recycled residual solid waste as well as other feedstocks and for various energy outputs.

3.1 Response Review

The County and its advisors will review all materials received in response to this RFEI. Based upon that review, the County will identify those Respondents that it deems to be suitable for inclusion in its data base, considering the intent of the data base and each Respondent's experience, capabilities, and resources as well as the demonstrated capability of the identified conversion technology.

In reviewing submissions and determining which Respondents will be included in the data base of conversion technology providers, the County will apply the following evaluation criteria:

1. The Response to the RFEI must be clear and complete regarding the information requested, including completion of Response Form 1, Response Form 2 and Response Form 3 attached to this RFEI.

2. The Response must be focused on a conversion technology suitable for management of post-recycled residual solid waste and/or other feedstock as specified herein. As previously stated, this RFEI is not seeking information on conventional (or advanced) waste-to-energy combustion technology, technologies that alter only the physical characteristics of waste feedstock (e.g., screening, shredding and/or grinding such as to produce a refuse derived fuel), or conventional composting technology, except as such technologies may be used in combination with conversion technology (e.g., for pre- or post-processing).

3. The Respondent must be the owner of the conversion technology, or otherwise hold the appropriate licenses or agreements to market, develop, warranty, and (if operating services are offered) operate and maintain the technology for long-term periods (e.g., 10 or 20 years) within Los Angeles County, California.

4. The Response to the RFEI must include identification of at least one self-defined optimum project for commercial application of the conversion technology. Such optimum project must be based on processing MSW as described in Attachment 1 and/or other suitable feedstock as defined herein. The capacity of the optimum project should be determined by the Respondent in consideration of both technical and economic factors (self-defined and technology specific, as applicable). More than one optimum project can be described.

5. The technology must be ready for immediate, commercial development in Los Angeles County at the capacity and with the feedstock defined by the Respondent for the optimum project(s). The Respondent shall demonstrate such "readiness" by documenting with its RFEI response that the technology has previously operated in either a commercial application and/or for demonstration purposes, processing MSW comparable to the characteristics of MSW described in Attachment 1 (or processing RDF or MRF residue resulting from such MSW), or processing other suitable feedstock, as applicable. The commercial and/or demonstration project(s) used as evidence of technology "readiness" must be of a comparable unit and/or facility capacity to the optimum project(s) identified by the Respondent, or must have a reasonable "scale up" factor justified by the Respondent as part of the RFEI Response.

6. The technology must have an existing reference facility (demonstration or commercial) that can be visited to observe the technology in operation. The RFEI Response must provide information on that reference facility, including its location and operating status.

7. The technology must provide for beneficial use of waste through the production of fuel and/or energy, compost, and other marketable products, as applicable, evidenced by defined markets for all such products. The County recognizes that certain recovered or generated products may have legitimate beneficial uses but no or limited market value or revenue potential.

8. The technology must be able to facilitate the County's goal of maximizing landfill diversion, and at a minimum must have the potential to achieve 50percent or greater landfill diversion (by weight) when processing MSW as described in Attachment 1 or processing other suitable feedstock as defined herein.

3.2 Submission Requirements

Responses are to be received no later than 2 p.m. Pacific Daylight Time (PDT) on August 15, 2013.

Responses received later than that time may not be reviewed. Responses shall consist of a total of two (2) printed copies and four (4) CDs, submitted to ARI and the County as indicated below. Proposers are also encouraged (but not required) to supplement the printed/CD copies with an e-mail submission to both ARI and the County. Submittals that are made via e-mail by the stated date and time will be considered timely, but must be followed up with the printed/CD copies shortly after submittal. Submittals sent via e-mail should have a file size of less than 10MB, and should state "Conversion Technology RFEI Response" in the subject line of the e-mail. Electronic files sent via e-mail and/or included on the CDs should be in PDF format, or such other file formats as necessary or beneficial to the review of the information. Please provide photos that are included with the response in a JPG format, to allow for insertion of photos into the data base.

As noted above, the Response shall consist of a total of two (2) printed copies and four (4) CDs submitted as follows:

ARI:
One (1) printed copy and two (2) CDs:
Ms. Susan Higgins
Alternative Resources, Inc.
1732 Main Street
Concord, MA 01742
978-371-2054
shiggins@alt-res.com

County:
One (1) printed copy and two (2) CDs:
Mr. Christopher Sheppard
Environmental Programs Division
Los Angeles County Department of Public Works
900 South Fremont Avenue – Annex 3rd Floor
Alhambra, CA 91803-1331
626-458-5163
csheppard@dpw.lacounty.gov

Responses should follow the format and outline specified in Section 3.3 of this RFEI. Any questions should be directed via e-mail to ARI, with a copy to the County, as provided above. As appropriate, a written response necessary to clarify, modify, or supplement the RFEI will be posted on the County's website (www.socalconversion.org). The ARI and County representatives listed above are also available for discussion by telephone. Respondents are encouraged to first contact ARI, which is responsible for coordinating the RFEI effort.

All responses will be considered public information. Although the individual responses may not be released publicly, the results of the County's review will be made available to the public. Consequently, responses should not include confidential or proprietary information that any Respondent would not want publicly disclosed. If a Respondent would be unable to respond effectively to this RFEI without the submittal of confidential information, or otherwise wishes to submit confidential information for the benefit of the County and ARI, please contact ARI to discuss alternatives for management of such confidential information. Respondents are advised that at a minimum, the information provided by the Respondent on Response Forms 1, 2, and 3 will be made public, as this information represents key data base inputs for companies that are included on the data base following the County's review.

3.3 Response Format and Outline

Responses should be presented in a clear and organized manner to facilitate review and evaluation. Responses should be structured as follows:

3.3.1 Letter of Transmittal

A brief letter of transmittal should be included in the response identifying the company, describing the key features of the conversion technology, identifying the waste type(s) and size ranges for which the technology is suitable, and identifying the self-defined optimum project(s) for commercial application of the technology.

3.3.2 Demonstration of RFEI Evaluation Criteria

Respondents should provide a summary addressing their ability to meet each of the evaluation criteria outlined in Section 3.1 of this RFEI.

3.3.3 Response Forms

Respondents should complete the three Response Forms attached to this RFEI:

- Response Form 1: Identification of Conversion Technology Equipment Supplier/Project Developer

- Response Form 2: Description of Reference Facility (Submit a completed form for at least one reference facility, and preferably two. Currently, the data base is structured to list detailed information for two reference facilities and summary notes on additional reference facilities.)

- Response Form 3: Respondent Identification of Technology-Specific Optimum Project (Submit a completed form for at least one optimum project.)

If a Respondent offers more than one conversion technology that would typically be implemented in discretely different types of projects and would be categorized differently as part of the County's data base, a separate set of Response Forms should be submitted for each technology. This will allow the County to separately list each technology in the most appropriate way as part of the data base, to facilitate sorting by users for key factors such as type of technology, capacity, and feedstock.

3.3.4 Additional Information to be Submitted

The Respondent is requested to provide the following additional information:

- Provide a general introduction to the Respondent.

- Provide a discussion of the Respondent's business structure and relationship to the proposed technology (e.g., years of direct history with the technology; ownership and/or license arrangements; other parties involved in technology development and ownership, etc.); the territory(ies) covered by any licensing arrangements, the term(s) of any arrangement(s), and the extent of exclusivity of any arrangement(s); the Respondent should describe the extent of licensor financial, technical, and management support (including the application and enhancement over time of the technology), and arrangements that exist or would be put in place to efficiently access such support.

- Describe any existing relationships with environmental permitting firms, design firms, construction companies, operators, project financing partners, and other key participants with which you are developing or planning to develop projects.

- Provide a description of the core conversion technology, including its capabilities for and experience with processing MSW, as described in Attachment 1, and/or other feedstock addressed in this RFEI, as applicable.

- Identify and describe the major supporting systems and technologies that are used for commercial application of the conversion technology as a complete process (e.g., feedstock handling and pre-processing, post-conversion systems for residue and product management, electricity, and/or fuel generation equipment and systems, gas cleanup technologies, air pollution control equipment, water and wastewater treatment systems, etc.).

- Identify utility requirements typical for operation of the technology, including the need for natural gas, oil, or other supplemental fuel, and the ability to minimize water consumption and process wastewater discharge.

- In support of Response Form 3, please provide a generic facility site layout, equipment general arrangement, and schematic process flow diagram for Respondent's optimum project.

- Describe the approach to project development for the optimum project, i.e., modular development or "scale-up" of modules for commercial application. Describe the "readiness" of the technology for application in such a project configuration, citing previous operating experience of comparable scale and design, and addressing the issue of "scale-up" and integration of new system components, as applicable.

- Provide an overall system mass balance (and, if available, an energy balance) for the optimum project(s) for commercial application of the technology. Information provided should include recyclables recovered, energy generated, all other products generated such as compost or aggregate (as applicable), and residue requiring landfill disposal. The mass balance should provide sufficient information for the County to assess the potential to achieve 50percent or greater landfill diversion (by weight) when processing MSW as described in Attachment 1 (and/or processing other feedstock addressed in this RFEI, as applicable).

- The ability to market products generated by a conversion technology facility is a critical element to achieve landfill diversion. Respondent is asked to describe its overall experience in marketing products, to provide insight into the market conditions (strengths and weaknesses) of the products that would be generated, and to identify any specific plans for marketing such products for commercial application in the County.

- In addition to the information to be provided on Response Form 2 regarding one or more reference facilities, provide a summary list of operating facilities that incorporate the specified conversion technology, the capacity of such facilities, the feedstock processed, a description of whether each facility is a commercial or demonstration facility, the date placed in operation, and the

current status (e.g., in permitting, under construction, in start-up, commercially operational, intermittently operational, closed, etc.). If the reference facility(ies) listed on Response Form 2 are the only application of the specified conversion technology, please state this to be the case.

- Please provide one or more photographs of the conversion technology and reference facility(ies), with each photograph labeled to identify the facility and other key details depicted in the photograph. The County requests that Respondents provide photographs in a JPG or comparable format that can be reproduced by the County for use in the data base and/or reports, presentations, or other media related to the County's conversion technology program. To the extent available, videos related to operations at the reference facilities are of interest to the County and ARI and are encouraged to be submitted with the RFEI response.

ATTACHMENT 1
DEFINITIONS

Conversion Technology – a wide array of technologies capable of converting post-recycled or residual solid waste (including food waste, green waste, and other feedstock such as medical waste, biosolids, etc.) into useful products, green fuels, and renewable energy through non-combustion thermal, chemical, or biological processes. Conversion technologies may include mechanical processes when combined with a secondary conversion process.

Food Waste – pre- and post-consumer food material (e.g., from institutional cafeterias, restaurants, grocery stores, and residential food scrap collection programs), excluding materials that would be defined as agricultural materials.

Green Waste – urban landscape waste generally consisting of leaves, grass clippings, weeds, yard trimmings, wood waste, branches and stumps, home garden residues, and other miscellaneous organic materials

Municipal Solid Waste (MSW) – overall disposed waste stream generated by residential, commercial, and self-hauled sources after source separation of recyclables and other materials diverted from disposal.

ATTACHMENT 2
DESCRIPTION OF MUNICIPAL SOLID WASTE

For purposes of this RFEI, MSW is considered the overall disposed waste stream generated by residential, commercial and self-hauled sources, after source-separation of recyclables and other materials diverted from disposal. In order to provide uniformity among the RFEI submittals, please assume the following reference waste composition for preparation of a Response.

ASSUMED COMPOSITION OF WASTE
(SOURCE: CALIFORNIA 2008 STATEWIDE CHARACTERIZATION STUDY)

Material	Percent of Waste*
Paper	
Uncoated Corrugated Cardboard	4.8
Paper Bags	0.4
Newspaper	1.3
White Ledger Paper	0.7
Other Office Paper	1.2
Magazines & Catalogs	0.7
Phone Books & Directories	0.1
Other Misc. Paper	3.0
Remainder/Composite Paper	5.2
Total	**17.3**
Glass	
Clear Bottles & Containers	0.5
Green Bottles & Containers	0.2
Brown Bottles & Containers	0.3
Other Colored Bottles & Containers	0.1
Flat Glass	0.1
Remainder/Composite Glass	0.3
Total	**1.4**
Metal	
Tin/Steel Cans	0.6
Major Appliances	0.0
Used Oil Filters	0.0
Other Ferrous	2.0
Aluminum Cans	0.1
Other Non-Ferrous	0.2
Remainder/Composite Metal	1.6
Total	**4.6**
Electronics	
Brown Goods	0.2
Computer-related Electronics	0.1
Other Small Consumer Electronics	0.1
Video Display Devices	0.2
Total	**0.5**

Major Constituent	Percent of Waste*
Plastic	
PETE Containers	0.5
HDPE Containers	0.4
Misc. Plastic Containers	0.4
Plastic Trash Bags	0.9
Plastic Grocery & Other Merchandise Bags	0.3
Non-Bag Commercial & Industrial Packaging Film	0.5
Film Products	0.3
Other Film	1.4
Durable Plastic Items	2.1
Remainder/Composite Plastic	2.8
Total	**9.6**
Other Organic	
Food	15.5
Leaves & Grass	3.8
Prunings & Trimmings	2.7
Branches & Stumps	0.6
Manures	0.1
Textiles	2.2
Carpet	3.2
Remainder/Composite Organic	4.3
Total	**32.4**
Inerts and Other	
Concrete	1.2
Asphalt Paving	0.3
Asphalt Roofing	2.8
Lumber	14.5
Gypsum Board	1.6
Rock, Soil & Fines	3.2
Remainder/Composite Inerts & Other	5.5
Total	**29.1**
Household Hazardous Waste (HHW)	
Paint	0.1
Vehicle & Equipment Fluids	0.0
Used Oil	0.0
Batteries	0.0
Remainder/Composite HHW	0.1
Total	**0.3**
Special Waste	
Ash	0.1
Treated Medical Waste	0.0
Bulky Items	3.5
Tires	0.2
Remainder/Composite Special Waste	0.1
Total	**3.9**

Mixed Residue	**Total**	**0.8**

* Percentages for material types may not total 100percent due to rounding.

ATTACHMENT 3
RFEI RESPONSE FORMS

RESPONSE FORM 1.
IDENTIFICATION OF CONVERSION TECHNOLOGY
EQUIPMENT SUPPLIER/PROJECT DEVELOPER

Respondent (Name of Company to be Listed on Data Base):

Type of Respondent (for purpose of data base entry; please ***check all that apply***):

- ☐ Conversion Technology Equipment Supplier
- ☐ Conversion Technology Project Developer

Type of Conversion Technology (for purpose of data base entry; please ***select only one***):

- ☐ Gasification
- ☐ Plasma Gasification
- ☐ Pyrolysis
- ☐ Anaerobic Digestion
- ☐ Other - Specify:

Feedstock for which the conversion technology is demonstrated to be best suited (for purpose of data base entry; please ***check all that apply***):

- ☐ MSW
- ☐ Food Waste
- ☐ Green Waste
- ☐ Biosolids
- ☐ Medical Waste
- ☐ Other (Specify:_____)

Capacity for which the technology is demonstrated to be best suited (for purpose of data base entry; please ***check all that apply***):

- ☐ <100 tpd
- ☐ 100 tpd - 500 tpd
- ☐ >500 tpd - 1,000 tpd
- ☐ >1,000 tpd - 1,500 tpd
- ☐ > 1,500 tpd

Technology Name:

Brief Technology Description:

Summary of Respondent's Business Structure:

Summary of Respondent's Technology Rights:

Respondent's Website Address:

Primary Contact Person:

Name:

Title:

Telephone

Email:

Fax:

Mailing Address:

Secondary Contact Person:

Name:

Title:

Telephone

Email:

Fax:

Mailing Address:

RESPONSE FORM 2.
DETAILED DESCRIPTION OF REFERENCE FACILITIES

Respondent is requested to complete this form for at least one reference facility, and is encouraged to complete a duplicate form for additional reference facilities. (Currently, the data base allows for two reference facilities to be listed.) The facilities identified as reference facilities should be those that most closely represent the optimum project(s) for commercial application of the specified conversion technology (as identified in Response Form 3), or that otherwise offer the best demonstration of the performance and capabilities of the technology. At least one of the reference facilities identified should be an existing facility that could be visited to view the technology and observe it in operation.

Facility Location:

Facility Name (if applicable):

Owner:

Operator:

Entity(ies) Served by Facility:

Conversion Technology Used:

Facility Design Capacity (based on short tons of 2,000 pounds per ton):

Tons per day (tpd):
Tons per year (tpy):

Demonstrated Operating Capacity (based on short tons of 2,000 pounds per ton):

Tons per day (tpd):
Tons per year (tpy):

Number of Conversion Technology Units and Capacity per Unit:

Size of Facility Site (acres):

Feedstock Processed (if multiple types of feedstock, specify approximate percentage of each, if known):

Energy Product(s) Generated (type and amount):

Technology Used for Energy Generation:

Other Marketable Product(s) Generated (type and amount):

Quantity of Residue Requiring Disposal:

Facility Development Status

- ☐ Currently Operated for Commercial Application
- ☐ Currently Operated for Demonstration Purposes
- ☐ Closed - Previously Operated for Commercial Application
- ☐ Closed - Previously Operated for Demonstration Purposes
- ☐ Under Active Construction
  - Anticipated Date of Operation:
- ☐ Under Development (Pre-Construction)
  - Current Stage of Development:
  - Anticipated Date of Construction:
  - Anticipated Date of Operation:

For Facilities Currently Operated for Commercial Application:

Date of Initial Commercial Operation:
Is the Facility Currently Operating (Yes/No):
Typical Annual Operating Schedule/Hours:
Identification of any Extended Shut-downs (dates and reasons):

For Facilities Currently Operated for Demonstration Purposes:

Date of Initial Operation:
Is the Facility Currently Operating (Yes/No):
Typical Operating Schedule/Hours:
Total Hours Operated to Date:
Total Feedstock Processed to Date:

For Facilities Currently Closed:

Date of Initial Operation:
Date Facility Closed:
Description of Operating History:

Can the Facility be Visited to View the Technology and Observe it in Operation (Yes/No, and describe any limitations or coordination issues associated with visiting the Facility):

Other Information Respondent Wishes to Provide:

RESPONSE FORM 3.
IDENTIFICATION OF OPTIMUM PROJECT(S) FOR
COMMERICAL APPLICATION OF CONVERSION TECHNOLOGY

Respondent is requested to complete this form for each optimum project it identifies for commercial application of its conversion technology in a generic greenfield installation, considering self-defined technical, economic and other factors that are specific or perhaps unique to each company and technology. The intent of defining an optimum project is to allow users of the data base to understand the intended and/or most viable applications of the technology.

DESCRIPTION OF OPTIMUM PROJECT:

Facility Design Capacity (based on short tons of 2,000 pounds per ton):

Tons per day (tpd):
Tons per year (tpy):

Identification of Conversion Technology to be Used:

Number of Conversion Technology Units and Capacity per Unit:

Pre-Processing Equipment/Systems:

Post-Processing and other Key Support Equipment/Systems:

Feedstock (list all types, with approximate percentages):

Acreage Required for Facility Development:

Minimum Acreage Required:
Preferred Acreage Required (for design flexibility, additional buffer, etc.):
Approximate Utilization of Acreage (percent of Total):
Buildings and Structures:
Roads and Parking:
Ancillary Operations (Including Digestate Composting, as Applicable):
Buffer and Green Areas:
Other (Specify):

Energy Products to be Generated:

Other Marketable Products to be Generated:

Residue Requiring Disposal:

Expected Landfill Diversion (percent by weight):